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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

IM22/0801

Daniel B Ruble  
Sealed Air Corporation  
P O Box 464  
Duncan SC 29334

HAWKINS, C	
ART UNIT	PAPER NUMBER

1734  
DATE MAILED:

08/01/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

**Office Action Summary**

Application No.

09/483,117

Applicant(s)

GEORGE ET AL.

Examiner

Cheryl N Hawkins

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 5-20 is/are allowed.
- 6) ☒ Claim(s) 4, 21, 26, 30-34 and 38-48 is/are rejected.
- 7) ☒ Claim(s) 27-29 and 35-37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4, 21, 41, and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to how the heating element located on the front jaw is partially embedded in the rear jaw. For the purposes of examination, it will be assumed that the heating element located on the front jaw becomes partially embedded in the resilient portion of the resilient portion of the rear jaw when the front and rear jaws are in the closed position.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 22-25, 30, 31, and 42-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergevin (US 4,981,546) in view of Soodak (US 5,474,637). As to Claims 22, 30, and 31, Bergevin discloses a device for heating sealing two thermoplastic films together, the device comprising; front and rear opposing jaws moveable between an open position defining a

zone for inserting the two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other, the rear jaw including a resilient portion facing the front jaw, the resilient portion having a given cross-sectional thickness; a front jaw release sheet positioned between the insertion zone and the front jaw when the front and rear jaws are in the open position; and a heating element positioned between the front jaw release sheet and the front jaw. The heat sealing apparatus of Bergevin also includes a surface of the resilient portion of the rear jaw facing the front jaw that has a release characteristic and a rear jaw release sheet adjacent to the resilient portion of the rear jaw (Figure 1; column 2, lines 53-68; column 3, lines 1-28).

As to Claims 22, 23, 24, and 25, Bergevin is silent as to the heating element having a cross-sectional thickness no less than about twice the cross-sectional thickness of the resilient portion. It is known in the heat sealing apparatus art, as disclosed by Soodak, for a heat sealer to have a heating element (Figure 5, temperature controlled bar 28) with a cross-sectional thickness greater than two times the cross-sectional thickness of the resilient portion (Figure 5, silicone rubber cord 38). One of ordinary skill in the art at the time of the invention would recognize that a heat sealing device having a heating element which is either less than or greater than two times the cross-sectional thickness of the resilient portion would readily produce effective heat seals as suggested by Bergevin and Soodak.

As to Claims 42, 45, 46, and 47, Bergevin discloses a device for heat sealing thermoplastic films together, the device comprising: front and rear opposing jaws moveable between an open position defining zone for inserting the thermoplastic films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other to

compress the thermoplastic films together, the rear jaw having a resilient portion facing the front jaw, the resilient portion having a given cross-sectional thickness; and a heating element positioned between the insertion zone and the front jaw. Bergevin also discloses a heat sealer wherein the heating element is partially embedded in the resilient portion of the rear jaw during operation of the heat sealer; the surface of the resilient portion of the rear jaw facing the front jaw includes a release characteristic; and the rear jaw release sheet is adjacent to the resilient portion of the rear jaw (Figure 1; column 2, lines 53-68; column 3, lines 1-28).

As to Claims 42, 43, and 44, Bergevin is silent as to the heating element having a cross-sectional thickness no less than about twice the cross-sectional thickness of the resilient portion. It is known in the heat sealing apparatus art, as disclosed by Soodak, for a heat sealer to have a heating element (Figure 5, temperature controlled bar 28) with a cross-sectional thickness greater than two times the cross-sectional thickness of the resilient portion (Figure 5, silicone rubber cord 38). One of ordinary skill in the art at the time of the invention would recognize that a heat sealing device having a heating element which is either less than or greater than two times the cross-sectional thickness of the resilient portion would readily produce effective heat seals as suggested by Bergevin and Soodak.

As to Claim 48, Bergevin is silent as to the percentage of the surface area of the heating element that the release sheet conforms to upon closure of the front and rear jaws. When modifying the heat sealer of Bergevin to include the use of a release sheet composed of an unreinforced material such as Teflon-coated polyimide, the front release sheet would become capable of conforming to greater than 20% of the surface of the heating element that is within the transverse width of the thermoplastic films.

5. Claims 26 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergevin (US 4,981,546) and Soodak (US 5,474,637) as applied to claim 1 above, and further in view of "The Wiley Encyclopedia of Packaging Encyclopedia". As to Claims 26 and 32, Bergevin is silent as to the front jaw or rear jaw release sheet including an unreinforced release material. It is well known and conventional in the heat sealing apparatus art, as disclosed in "The Wiley Encyclopedia of Packaging Technology", for impulse sealers to contain release coverings that can be composed of reinforced materials i.e. silicone-rubber-coated fiberglass or unreinforced materials such as polyimide film (page 575, column 2, lines 5-9; Figure 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an unreinforced material as the release sheet in the heat sealing device of Bergevin; the use of unreinforced materials such as polyimide films being well established in the heat sealing apparatus art.

6. Claims 33, 34, and 38-41 rejected under 35 U.S.C. 103(a) as being unpatentable over Bergevin (US 4,981,546) and "The Wiley Encyclopedia of Packaging Technology". As to Claims 33, 39, and 41, Bergevin discloses a device for heat sealing thermoplastic films together, the device comprising: front and rear opposing jaws moveable between an open position defining a zone for inserting two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate to each other to compress the thermoplastic films together, the rear jaw including a resilient portion facing the front jaw; a front jaw release sheet positioned between the insertion zone and the front jaw when the front and rear jaws are in the open

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position, the front jaw release sheet including a release material; and a heating element positioned between the front jaw release sheet and the front jaw. Bergevin also discloses the heat sealing apparatus as having a rear jaw release sheet adjacent to the resilient portion of the rear jaw and wherein the heating element is partially embedded in the resilient portion of the rear jaw during operation of the heat sealer (Figure 1; column 2, lines 53-68; column 3, lines 1-28).

As to Claims 33, 34, 38, and 40, Bergevin is silent as to the front jaw or rear jaw release sheet including an unreinforced release material. It is well known and conventional in the heat sealing apparatus art, as disclosed in "The Wiley Encyclopedia of Packaging Technology", for impulse sealers to contain release coverings that can be composed of reinforced materials i.e. silicone-rubber-coated fiberglass or unreinforced materials such as Teflon-coated polyimide film (page 575, column 2, lines 5-9; Figure 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an unreinforced material as the release sheet in the heat sealing device of Bergevin; the use of unreinforced materials such as polyimide films being well established in the heat sealing apparatus art

***Allowable Subject Matter***

7. Claims 1-3 and 5-6 are allowed.
8. Claim 4 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. The following is an examiner's statement of reasons for indicating allowable subject matter: As to Claim 1, the prior art of record to Bergevin discloses a device for heating sealing at least two thermoplastic films together, the device comprising front and rear opposing jaws movable between an open position defining a zone for inserting the two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other to compress the two thermoplastic films together, the rear jaw including a resilient portion facing the front jaw, the resilient portion having a given cross-sectional thickness; a rear jaw release sheet adjacent to the resilient portion of the rear jaw, the rear jaw release sheet including a reinforced release material; a front jaw release sheet positioned between the insertion zone and the front jaw when the front and rear jaws are in the open position, the front jaw release sheet including a reinforced material; a heating element positioned between the front jaw release sheet and the front jaw, the heating element having a cross-sectional thickness less than 0.55 times the cross-sectional thickness of the resilient portion (Figure 1; column 2, lines 53-68; column 3, lines 1-28).

The prior art of record to Bergevin does not teach including an unreinforced release material as the release material for the front and rear jaws. The conventional prior art disclosed in "The Wiley Encyclopedia of Packaging Technology" teaches that impulse sealers, such as the apparatus of Bergevin, contain release coverings that can be composed of reinforced material i.e. silicone-rubber-coated fiberglass or unreinforced material such as polyimide film (page 575, column 2, lines 5-9; Figure 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide an unreinforced material as the release sheet in the heat



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sealing device of Bergevin; the use of unreinforced materials such as polyimide films being well known and conventional in the heat sealing apparatus art.

The prior art of record to Bergevin does not teach a heating element having a cross-sectional thickness no less than about 0.55 times the cross-sectional thickness of the resilient portion. The prior art of record to Soodak discloses a heat sealing device in which the cross-sectional thickness of the heating element (Figure 5, temperature controlled bar 28) is greater than 0.55 times the cross-sectional thickness of the resilient portion. One of ordinary skill in the art at the time of the invention would readily recognize that a heat sealing device having a heating element which is less than or greater than 0.55 times the cross-sectional thickness of the resilient portion would produce effective heat seals as suggested by Bergevin and Soodak.

The prior art of record does not teach or provide any motivation for the heat sealing device having at least one recoiler having a first end attached to the front jaw release sheet and a second end attached to the front jaw, wherein the recoiler disengages the front jaw release sheet from the heating element when the front and rear jaw are in the open position.

10. Claims 7 and 8 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter: As to Claim 7, the prior art of record to Bergevin teaches a heat sealing device which is capable of performing a method of simultaneously sealing and severing two thermoplastic films, the method comprising: inserting the two thermoplastic films in the insertion zone of the device; moving the front and rear jaws to the closed position whereby the two thermoplastic films are pressed

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together between the front and rear jaws; applying an electrical impulse to the heating element to increase the temperature of the heating element to a point sufficient to simultaneously sever and heat seal the two thermoplastic films; and discontinuing the electrical impulse to the heating element while the front and rear jaws are in the closed position to set the heat seal (Figure 1; column 2, lines 53-68; column 3, lines 1-28).

However, the prior art of record does not teach performing this heat sealing method with the heat sealing device as described in claim 1.

12. Claims 9-20 are allowed.

13. Claim 21 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: As to Claim 9, the prior art of record to Bergevin teaches a device for heating sealing at least two thermoplastic films together, the device comprising: front and rear opposing jaws moveable between an open position defining a zone for inserting the two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other to compress the two thermoplastic films together, the rear jaw including a resilient portion facing the front jaw; a front jaw release sheet positioned between the insertion zone and the front jaw when the front and rear jaws are in the open position; and a heating element positioned between the front

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release sheet and the front jaw, wherein the front jaw release sheet is attached to the heating element when the front and rear jaws are closed or open position (Figure 1; column 2, lines 53-68; column 3, lines 1-28).

The prior art of record does not disclose or provide any motivation for having a heat sealing device in which the front jaw release sheet engages the heating element when the front and rear jaws are in the closed position and disengages from the heating element when the front and rear jaws are in the open position.

15. Claims 27-29 and 35-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. As to Claims 27 and 35, the prior art of record to does not teach or suggest any motivation for a heat sealer to have at least one spacer attached to the front jaw release sheet, wherein the front jaw release sheet is disengaged from the heating element when the front and rear jaws are in the open position.

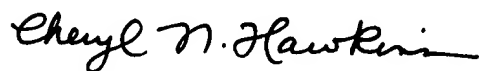
### ***Conclusion***

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheryl N. Hawkins whose telephone number is (703) 306-0941. The examiner can normally be reached on Monday through Friday from 8:00 am to 4:30 pm.

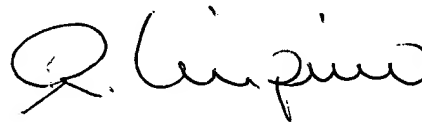
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where the application or proceeding is assigned is (703) 305-7715 or (703) 305-7718.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone numbers is (703) 308-0661.

Cheryl N. Hawkins



July 30, 2001



RICHARD CRISPINO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700